



## **ARGUMENTS ACCOMPANYING THE PRE-APPEAL REQUEST FOR REVIEW**

The present invention as set forth in claims 75, 80 and 87 is directed to a method for applying substances to a support for the combinatorial synthesis of molecule libraries that are then used in the detection of optical properties such as luminescence reactions or refraction behavior of molecules bound to the support.

Specifically, the use of laser printing in the process of applying these substances for the combinatorial synthesis of molecules in the manner as claimed is novel and unobvious.

### **ISSUE 1**

Rejection of independent claims 75 and 80 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No.: 6,951,682 to Zebala. This rejection has been applied by the Examiner in the final rejection of July 22, 2009.

### **ISSUE 2**

Rejection of independent claim 87 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No.: 6,951,682 to Zebala ("Zebala"), in view of U.S. Pat. No.: 5,581,337 to Suzuki ("Suzuki").

**CLEAR ERROR IN THE EXAMINER'S REJECTION:** Confusing laser printing technique as recited in claims 75, 80 and 87 with the use of laser light in the conventional lithographic method.

It is noted for the record that applicant's representative conducted an interview with the Examiner on December 21, 2009 and January 5, 2010. At that time, applicant provided to the Examiner proposed claims 75, 80 and 87 in which

certain changes were made to address formal issues. The Examiner stated that the claims might be allowable if a specific solvent was recited in the claim. Applicant believes that reciting a specific solvent would unnecessarily narrow the claim.

## ISSUE 1

The last rejection of July 22, 2009 is strongly traversed. The claims are directed to a method as described above in which one of the essential aspects is the laser printing technique. Zebala does not disclose or teach such a technique and furthermore provides no teaching or motivation to use the laser printing technique.

One of the essential differences between the laser printing technique (claimed) and the lithographic technique (Zebala) is that the laser printing technique is directed to a phase change of the solvent which in other words represents a physical change such as a different aggregational state of the solvent with the monomers embedded therein. With the lithographic method on the other hand the monomers applied to the support incur a chemical change when laser light is used to cleave protective groups or the laser light is used to structure the photo resist. The application of a laser light and the laser printing as recited in the claims are thus very different and one does in no case lead to the other. The disadvantages of the lithographic method are amply described in the specification of the application on page 26.

For example, when applying the lithographic method in the combinatorial synthesis of molecule libraries, the distinct disadvantage resides in the fact that each type of monomer must be layered one after the other such that for each type of monomer a layer is created. Thus, for a penta peptide library more than 100 cycles are required. The support in each layer must be entirely covered uniformly with the reactive monomer. This problem of multitudes of layers is

solved in the invention as recited in the claims by specifying that different monomers are applied at the same time to the support.

Zebala differs from that in that Zebala does not mobilize the monomers within a transport unit by changing the solvent from a solid state to a liquid state. This phase change is one of the characteristics of the claimed invention. The solid state can be an undercooled liquid. However, in Zebala the solvent is a volatile liquid.

In Zebala the photoresist is applied to separate the irradiated regions from the non-irradiated regions and after treatment with developer, the remaining photoresist is removed by contact with a stripping solution. This differs entirely from the washing away of unlinked monomers at the end of the process in the claims. However the more important aspect is that the Examiner failed to fully appreciate the present invention when she says that *...the substrate maybe translated using modulated laser or diode light and further ...arrays of ligands maybe attached to a porous coating using a placement method such as ink-jet technology....* The Examiner's reasoning is ill-advised because since the prior art fails to disclose any of the steps of the claimed method, the Examiner bridges the absence of a teaching or suggestion of this claim element in claims 75 and 80 by making a broad conclusion that Zebala's disclosure leads to laser printing. How did the Examiner make the nexus between ink-jet technology and the laser printing? By stating that laser light was used in Zebala and ink-jet technology was known at the time. This "nexus" was made even though the Zebala reference clearly states that it is not advisable to use the ink-jet technology on porous coating as described by Zebala. (see col. 37, lines 37-52 and as stated in the OA at page 12).

## ISSUE 2

The rejection of claim 87 on the ground that the secondary reference Suzuki teaches electrostatically charged particles is likewise erroneous. Applicant does

not dispute that Suzuki discloses electrostatically charged particles. However in the context of the above a combination of Zebala and Suzuki must fail since the Examiner merely stacks up two references, one mentioning in passing that ink-jet technology is known and that the Zebala reference uses laser light.

Here the Examiner clearly fell into the hindsight trap and used the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Gorman*, 933 F.2d 982. There is no teaching or suggestion in the prior art supporting the combination as proposed by the Examiner. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Gordon*, 733 F.2d at 902. Thus, there must be some motivation to combine the references to create the case of obviousness, and a showing that a skilled artisan, confronted with the problems as the inventor, would select the elements from the cited prior art references.

Thus, there must be some motivation to combine the references to create the case of obviousness, and a showing that a skilled artisan, confronted with the problems as the inventor, would select the elements from the cited prior art references. It is applicant's contention, that the Examiner failed to make a *prima facie* case of obviousness and failed to explain the motivation one with no knowledge of applicant's invention would have to combine the references in a manner suggested.

For the reasons set forth above, it is respectfully requested to reverse the rejection of claims 75, 80 and 87 under 35 U.S.C. 103(a).

Lastly, applicant also wishes to note that the Examiner's Office Action is confusing in that it contains 6 pages of copied text from the Zebala reference which is neither explained nor applied to any of applicant's arguments.

Furthermore with respect to the rejections on formal grounds, they are confusing since no claim 67 is in the application at this time and the new matter rejection is not justified since all of the terms appear in the specification. Lastly a Figure 25 which the Examiner claims as not present is clearly a part of the application as filed.